High Frequency Temperature Compensation Attenuator 36~50GHz 50Ω 200mW

Part No. Descriptions

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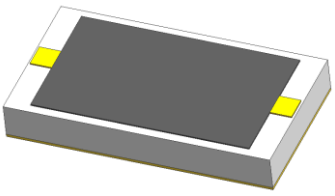
Series	**Frequency**	**Attenuation**	**Temperature Coefficient Code**	**Frequency Range Code**
QTCA	(36-50)	(02 to 10) 2dB to 10dB	(N3, N5, N7)	

Number Code	Frequency Range (GHZ)
3	28-31
5	32-36
7	36-50

Part No.	Attenuation (dB)	Temperature Coefficient Code	Temperature Coefficient of Attenuation (dB/dB/℃)	Typ. VSWR (:1) @25℃	Attenuation Accuracy (dB)
QTCA5002N*	2	N3,N5,N7	-0.003,-0.005,-0.007	1.20	±0.5
QTCA5003N*	3	N3,N5,N7	-0.003,-0.005,-0.007	1.20	±0.5
QTCA5004N*	4	N3,N5,N7	-0.003,-0.005,-0.007	1.20	±0.5
QTCA5005N*	5	N3,N5,N7	-0.003,-0.005,-0.007	1.20	±0.5
QTCA5006N*	6	N3,N5,N7	-0.003,-0.005,-0.007	1.20	±0.5

General Specifications

1. Frequency Range 36 to 50GHz
2. Attenuation 3dB
3. Attenuation Accuracy at 25℃ ±1.0dB Typical
4. VSWR at 25℃ 1.50:1 Typical
5. Nominal Impedance 50 Ohms
6. Power Rating 200 mW CW
7. Power Derating 100% @ 100℃
   Derates to 0% @ 150℃
8. Operating Temperature -55℃ to +150℃
9. Temperature Coefficient over Operating Temperature Range: See Table Above.
   Temperature Coefficient Tolerance: ±0.001dB/dB/℃.
10. Substrate: Alumina (Al_2O_3)
11. Resistive material: Thick film
12. Terminal material: Thick film, Input, Output and front Ground all made by gold,Back Ground made by Pd/Ag.
13. Protective Coating: Thick film (ethyl acetate)
14. Package Outline: See Sheet 3.
15. Workmanship: per MIL-PRF-55342.
16. RoHS Compliant.
17. Electrostatic Discharge Control: per MIL-STD-1686.



Unit Marking

ATTENUATION, TCA SLOPE AND TCA
LEGIBILITY AND PERMANANCY PER MIL-STD-130

Quality Assurance

1. SAMPLE INSPECT PER ANSI/ASQC Z 1.4 GENERAL INSPECTION, LEVEL II, AQL = 1.0
   1.1 VISUAL AND MECHANICAL EXAMINATION FOR CONFORMANCE TO OUTLINE DWG REQUIREMENTS.
2. MEASURE RESISTOR DATA AND APPLY FIRST-PASS ATTENUATION AND VSWR CRITERIA:
   2.1. ATTENUATION:
      2.1.1. G (dB) =TBD * RTOTAL + TBD, WHERE R TOTAL IS THE DC RESISTANCE MEASURED BETWEEN INPUT AND OUTPUT TERMINALS
      2.1.2. ACCEPTANCE LIMITS: PER TABLE 1, WHERE “G (dB)” REFERS TO “NOMINAL ATTENUATION (dB)

3. SAMPLE INSPECTION:

3.1. DESTRUCTIVE TESTING:

3.1.1. SELECT THREE (3) UNITS FROM LOT AND MEASURE TOTAL DCR EVERY 20ºC OVER THE TEMPERATURE RANGE FROM -55ºC THROUGH +125ºC

3.1.2. CALCULATE DCA BY FOR EACH MEASUREMENT, USING EQUATION 3.2.1.1

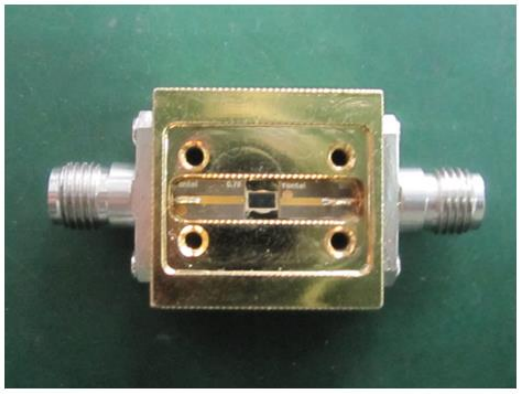
3.1.3. CALCULATE, USING LINEAR REGRESSION, THE SLOPE OF THE ATTENUATION VS. TEMPERATURE CURVE

3.1.4. CALCULATE TCA USING THE FOLLOWING FORMULA:

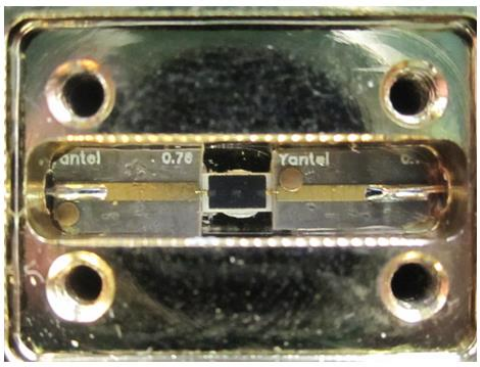
$$TCA = \frac{SLOPE}{ATTENUATION\ @\ 25ºC}$$

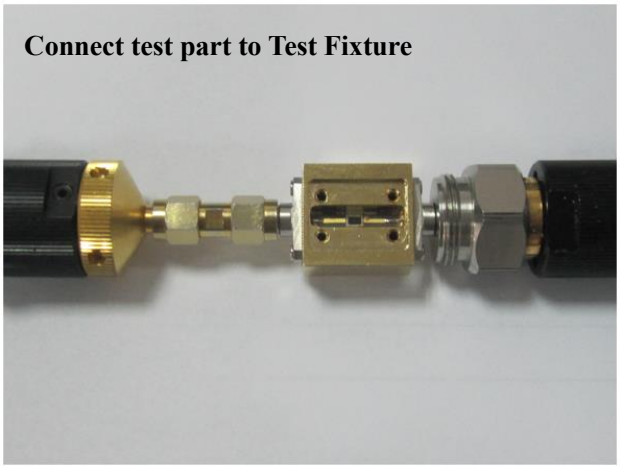
Notes on RF Testing and Circuit Layout

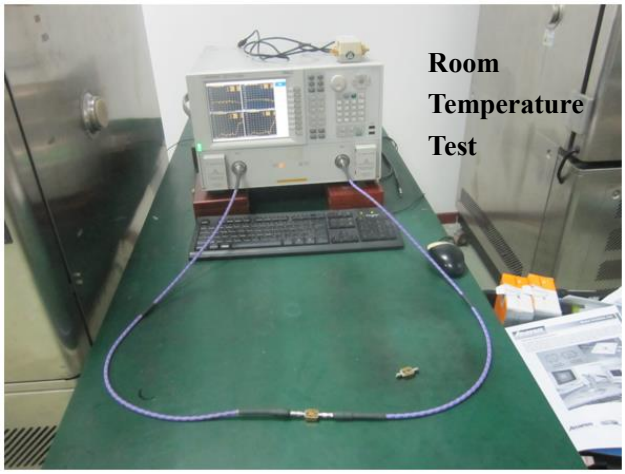
KTCA 16-36GHz series (for Gold Terminal type) Test Fixture



PCB Test Board







1、 S2P documents are available for download

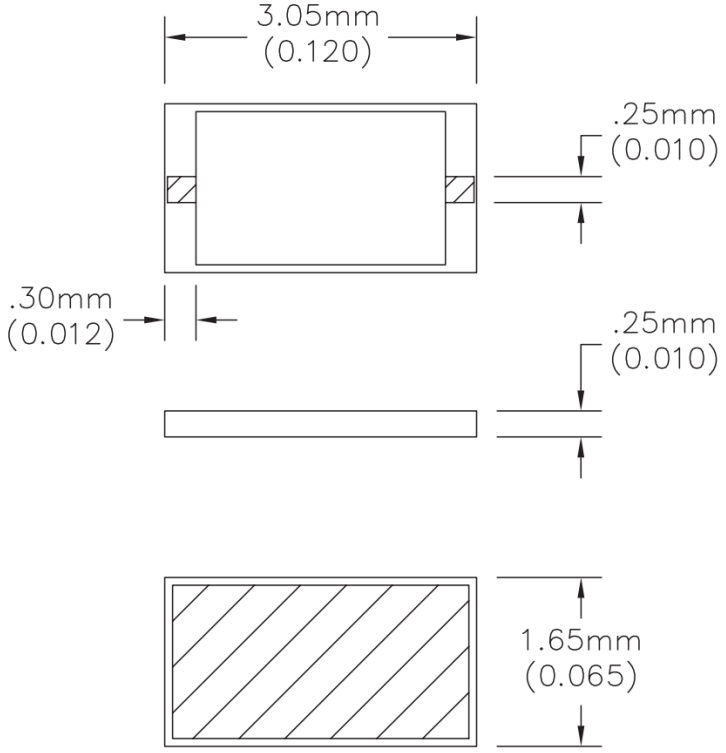
2、 16-36GHz test fixture is rentable（only for Chinese customers），otherwise please purchase them.

For any questions or needs, please feel free to contact inform@yantel-corp.com.

Package Outlines

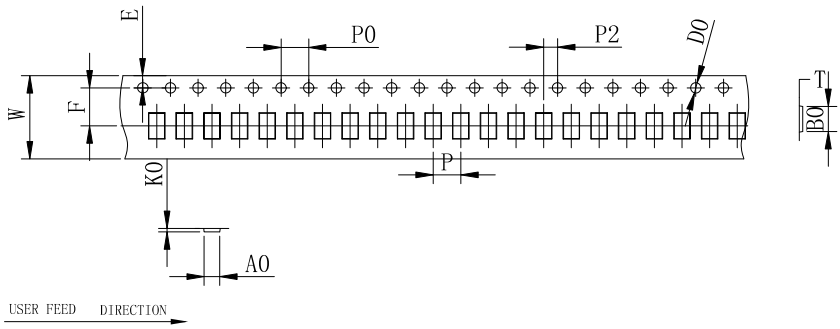
All dimensions shown in mm unless stated otherwise Unit: mm

Note: Dimension tolerance in ±0.10 otherwise mention.



Tape & Reel Drawing

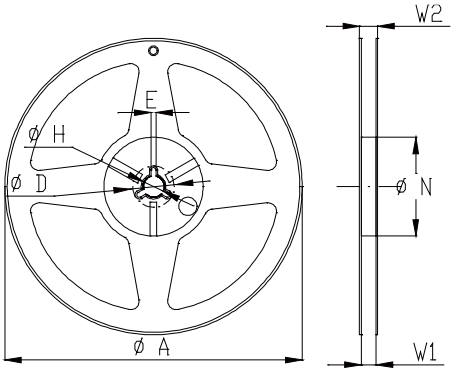
All dimensions shown in mm unless stated otherwise



Remarks:

1>Total tolerance of any 10 sprocket holes is ≤+/-0.20mm.
2>The thickness is measured on the margin of carrier tape.
3>Carrier camber should be not more than 1mm per 100mm through a length of 250mm.
4>The tolerance which is not marked is +/-0.1mm
5>AO,BO are measured from 0.3mm above the bottom of the cavity. KO refers to the inside depth.
6>The angle R which is not marked on the cavity is 0.2-0.3.
7>Draft angle which is not marked is 3°.
8>25 m/reel; 6000 units (maximum) / T&R

symbol	A0	B0	K0	P0	P	P2
spec	1.85±0.1	3.2±0.1	0.6±0.1	4.0±0.1	4.0±0.1	2.0±0.1
symbol	W	T	E	F	D0	
spec	12.0±0.3	0.3±0.05	1.75±0.1	5.5±0.1	$\Phi 1.5^{+0.1}_{-0.0}$	



Symbol	Dimensions(mm)
A	180+0/-3
N	60+1/-0
W1	12.0±0.3
W2	14±1.0
D	25±0.8
H	13±0.2
E	3±0.5